Commentary: Lack of Detection of HSV DNA in PBMCs and Lymph Nodes of HIV-Infected Persons

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Cantin et al. [1994] describe the detection of HSV DNA sequences in peripheral blood mononuclear cells (PBMCs) from healthy seropositive donors. They found HSV DNA as detected by DNA amplification by PCR using primers to the HSV-TK gene in 35 of 40 seropositive individuals. In addition, they described what appeared to be increasing amounts of HSV DNA in PBMCs from persons after bone marrow transplantation.

We carried out an investigation to define whether HSV DNA could be detected in PBMCs of persons with HIV infection. We evaluated the PBMCs in 27 HSV and HIV coinfected persons (four of them provided two specimens each from different dates, for a total of 31 specimens). The HSV serological status as defined by Western blot analysis was HSV-1 antibodies only in one, HSV-1 and HSV-2 antibodies in 15, and HSV-2 antibodies only in 11 [Ashley et al., 1991]. All 27 individuals had clinically evident HSV infections.

PCR amplification was carried out using two sets of HSV-specific primers, 1) a type common gB primer set utilized in our previous studies and shown to be able to detect as few as 5 copies of HSV DNA [Cone et al., 1991, 1994] and 2) a type common primer set to the TK region of HSV. DNA was extracted from 2×10^5 to 7×10^5 PBMCs using a proteinase K digestion, a phenol chloroform extraction, and ethanol precipitation. PCR amplification was for 35 cycles and a liquid hybridization detection procedure was used [Cone et al., 1991]. Both primer sets were able consistently to detect 5 copies of HSV DNA in one-tenth of the sample. All gB PCRs were spiked with a modified PCR product containing a *Drosophila* probe region [Cone et al., 1992]; no evidence of inhibition was detected. HSV DNA was detected in only one of the 31 samples, an HSV-1 only seropositive patient with an acyclovir-resistant HSV-1 buttock lesion. One to five copies of HSV DNA were detected in PBMCs with both the TK and the gB primers.

We also evaluated PBMCs obtained from inguinal lymph nodes removed from five patients with documented HIV (four with HSV-1 Ab, one with HSV-2 Ab). None of the samples was positive for HSV DNA. Of interest was the fact that one lymph node specimen was PCR positive for the recently described Kaposi's sarcoma herpes virus [Chang et al., 1994].

In summary, HSV DNA from PBMCs or inguinal lymphatic tissue is extremely uncommon among HIV-infected persons, even among those with frequently reactivating HSV. Our patients covered the spectrum of HIV disease, with six having very early infection, five being asymptomatic, and the rest having AIDS (four of whom had persistent rectal lesions from acyclovir-resistant HSV). The differences between our data and the data of Cantin et al. [1994] are unclear.

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